

CERTAMEN MELASTOMATACEIS XXXV.

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Except for minor divertissements elsewhere in South America, these notes constitute an interim supplement to the Flora of Ecuador. In addition to the novelties described below, the following species have now been recorded: Meriania pichinchensis Wurdack; Miconia brachycalyx Triana (Cotopaxi: Tenafuerste, Río Pilaló, elev. 750-1300 m, Dodson & Gentry 12727); Miconia impetiolaris (Sw.) Don ex DC. (Los Rios: Jauneche forest, Canton Vinces between Mocache and Palenque, elev. 70-100 m, Dodson et al 6948, 8760, and 9802), contradicting my demurral in the Flora; Clidemia calcarata Cogn. & Gl. ex Gleason (Napó: Baeza-Tena road, south slope of Cordillera de Guacamayos above Jondachi, elev. 1500 m, Harling & Andersson 16351); Clidemia garciabarrigae Wurdack (Carchi: El Pailon ca 45 km below Maldonado, elev. 800 m, Madison & Besse 7093); Ossaea bracteata Triana (Carchi: El Pailon ca 45 km below Maldonado, elev. 800 m, Madison & Besse 7013 and 7014); Ossaea rubescens (Triana) Cogn. (Carchi: El Pailon ca 45 km below Maldonado, elev. 800 m, Madison & Besse 6996); Blakea polyantha Wurdack; Topobea caudata Wurdack; Topobea modica Wurdack; and Alloneuron ecuadorensis Wurdack. Of course, there are also many new Province records for species previously known from Ecuador. Gilli (Feddes Repert. 92: 681-683. 1981) has published a list of his own Melastomataceae collections from Ecuador. I have not seen this material, but Miconia corazonica Gilli is a homonym and should be compared with M. asclepiadea Triana, while M. onychocalyx Gilli should be evaluated with the pleiostemonous element of M. crocea (Desr.) Naud.

LEANDRA CANDELABRUM (Macbride) Wurdack, comb. nov.

Graffenrieda candelabrum Macbride, Field Mus. Publ. Bot. 13(4): 321. 1941.

The misplacement of this species has long been known, but the proper generic disposition in the Miconieae has been elusive. In floral morphology, probably the closest relatives are L. aristigera (Naud.) Cogn., L. boissieriana Cogn., and L. lasiopetala Cogn., all with more developed vegetative pubescence, densely glandular-setulose hypanthia, and exappendiculate stamens. The petals in L. candelabrum externally have a subapical tooth projecting 0.3 mm as well as a few minute glands; the torus within is moderately glandular (0.05-0.1 mm); the 3-celled ovary is 1/2 inferior, with a moderately fine-setulose collar 0.6 mm long; and the baccate fruit is terete. While vegetatively somewhat suggesting Miconia lamprophylla Triana and M. procumbens (Gleason) Wurdack, L. candelabrum differs in basic inflorescence pattern and floral details (petals, ovary). The species range

now includes Venezuela (Amazonas: Liesner 3831 and 6556), Colombia (Amazonas: Schultes & Cabrera 15728), Peru (Amazonas: Huashikat 1414; Loreto), and Brazil (Amazonas: Prance 20746 and 22909). Certainly eastern lowland Ecuador will eventually be included in the distribution.

MICONIA PHAEOCHAETA Wurdack, sp. nov.

M. aureoidi Cogn. affinis, ramulorum foliorum subtus venarum primariarum inflorescentiarumque pubescentia longiore differt.

Ramuli teretes sicut petioli laminarum subtus venae primariae inflorescentiaeque dense pilis pinoideis (eminentiis ca 0.3 mm longis) 0.3-0.5(-0.8) mm longis furfuracei. Petioli 0.7-1.5 cm longi; lamina 10-23 X 4-7.5 cm elliptica vel anguste ovata apice gradatim acuminato basi obtusa, subcoriacea et crenulato-serrulata, supra glabra, subtus in venulis superficieque sparse pilis stellulato-pinoideis 0.2-0.4 mm diam. puberula, 5-nervata (pari tenui inframarginali incluso) nervis secundariis ca 4-5 mm inter se distantibus nervulis subtus planis obscuris areolis ca 1-1.5 mm latis. Panicula 8-10 cm longa submultiflora; flores 5-meri sessiles, bracteolis 2-2.5 X 1.5 mm ovatis deciduis. Hypanthium (ad torum) ca 2.7 mm longum dense pilis stellulato-pinoideis indutum; calycis tubus ca 1.1 mm longus, lobis interioribus ca 1 mm longis deltoideis intus dense strigulosus (pilis pinoideis), dentibus exterioribus obscuris; torus intus sparse glandulosus (0.1 mm). Petala extus dense granuloso-pruinosa 6-6.2 X 2.3-2.5 mm obovato-oblonga. Stamina dimorphica, filamentis 6.3-6.5 mm vel 4.7-4.8 mm longis modice glanduloso-puberulis (0.2 mm), thecis subulatis, poro 0.15 mm diam. Stamina maiora: thecae 4.3 X 0.6 X 0.6 mm, poro ventraliter inclinato; connectivum ad basim incrassatum 0.8 mm altum glandulis 2-3 in quoque lobo ornatum. Stamina minora: thecae 4 X 0.8 X 0.7 mm, poro dorsaliter inclinato; connectivo ad basim paulo incrassatum eglandulosum vel ventraliter glandula minuta obscura munitum. Stigma expansum 1 mm diam.; stylus 8 X 0.5-0.6 mm modice glanduloso-puberulus; ovarium 5-loculare ca 2/3 inferum, cono sparse glanduloso (0.1 mm).

Type Collection: G. Harling & L. Andersson 16581 (holotype GB; isotype US), collected on the Lago Agrio-El Conejo road between Lago Agrio and Proyecto San Miguel, Prov. Napo, Ecuador, elev. ca 300 m, 16 Feb. 1980. "Shrub 1 m high. Corolla yellowish green, stamens white."

Paratype: Willmar Schwabe 73/163 (US), from near Río Pepino about 15 km from Mocoa, Putumayo, Colombia, 13 Feb. 1973.

Miconia aureoides (see description in Flora of Ecuador 13: 132. 1980) has cauline, foliar, inflorescence, and hypanthial hairs only 0.1(-0.2) mm long with very minute enations; usually the connective glands in the small stamens are obvious. Miconia mazanana Macbride has paleaceous hairs at the branchlet nodes and pedicellate flowers with minute hypanthial pubescence. Both M. muricata (Don) Triana and M. glandulifera Cogn. (Phytologia 48: 241. 1981) seem more distantly related.

MICONIA SETICAULIS Wurdack, sp. nov.

M. pujanae Mgf. affinis, floribus 5-meris paulo minoribus, hypanthiis modice pilis stipitato-stellatis indutis differt.

Ramuli teretes sicut petioli densiuscule pilis stipitato-stellatis (stipite plerumque 2-2.5 mm longo, radiis paucis ca 0.3 mm longis) setosi. Petioli 1-2 cm longi; lamina (9-)12-20 X (4-)6-8 cm elliptica apice hebeti-acuto vel paullulo hebeti-acuminato basi rotundata, tenuis et distanter undulato-serrulata, supra et ad margines primum pilis stipitato-stellatis (stipite 0.3-0.5 mm longo) demum deciduis et pilis simplicibus laevibus 0.5-1 mm longis subpersistentibus sparse induta, subtus in venis primariis pilis stipitato-stellatis (stipite ca 1 mm longo) modice setulosa in venis secundariis venulisque pilis stipitato-stellatis (stipite plerumque 0.3-0.5 mm longo) sparse puberula, 3-5-nervata vel paulo (usque ad 1 cm) pseudoplinervata nervis secundariis ca 5-7 mm inter se distantibus nervulis subobscuris areolis 1-2 mm latis. Panicula 2-4 cm longa submultiflora; flores 5-meri sessiles, bracteolis ca 2 X 0.35 mm setulosis. Hypanthium (ad torum) 1.3 mm longum modice setulosum (stipite ca 0.5 mm longo); calyx tenuis in alabastris clausus demum subirregulariter dehiscens ca 0.5 mm longus; torus intus modice glanduloso-puberulus (0.1 mm). Petala 1.2 X 0.5-0.6 mm obovato-oblonga glabra. Filamenta 0.8-1 mm longa glabra; thecae 0.7-0.8 X 0.15 mm oblongae, poro 0.1 mm diam. paullulo dorsaliter inclinato; connectivum non prolongatum, dente dorsali descendenti 0.25-0.3 X 0.2 mm rotundato-truncato. Stigma non expansum; stylus glaber; ovarium 1/2 inferum, apice setuloso.

Type Collection: G. Harling & L. Andersson 17633 (holotype GB; isotype US), collected in virgin rain forest, Finca El Valle de Muerte, Río Curaray ca 10 km east of Curaray (Jesús Pitishka), Prov. Pastaza, Ecuador, elev. 200 m, 22 March 1980. "Shrub ca 2 m high. Corolla white. Ovary violet."

Miconia pujana has rather similar (but somewhat shorter) coarse cauline hairs, but 4-merous flowers and hypanthia nearly esetulose. All of the 5-merous species in this alliance have fine cauline and foliar pubescence and much larger flowers, the closest to *M. seticaulis* perhaps being *M. dorsiloba* Gleason and *M. duckei* Cogn.

MICONIA FILAMENTOSA Gleason subsp. CAQUETANA Wurdack, subsp. nov.

Floribus maioribus calycis dentibus exterioribus eminentibus differt.

Type Collection: J. Cuatrecasas & T. Soderstrom 27146 (holotype US 2596189), collected at San Luis near Quebrada de Miramar, left bank of Río Ortegua, Caquetá, Colombia, elev. 340 m, 16 January 1969. "Arbol 4 m. Hoja verde. Flores blancas."

Paratype: E. L. Little & R. R. Little 9742 (US), from Río Caquetá across from Solano, 8 km SE of Tres Esquinas below mouth of Río Ortegua, Putumayo, Colombia, elev. 200 m, 10 March 1945. "Small tree 6 m high, 5 cm DBH. Bark gray, smooth, trunk angled. Fls. white."

The typical Loreto (Peru) population of M. filamentosa has petals 2.7-3 X 1-1.2 mm (rather than 3.5-3.6 X 1.4-1.6 mm), large anthers 2.4-2.5 mm long (rather than 2.8-3 mm), small anthers 1.8-2 mm long (rather than 2.4-2.5 mm), hypanthium plus calyx tube ca 1.7 mm long (rather than 2.4 mm), and inframarginal external calyx teeth (rather than ca 0.2-0.3 mm emergent). The floral dimensions given in the original description of M. filamentosa are larger than seen by me on Klug 938 (US).

MICONIA CONFORMIS Wurdack, sp. nov.

Sect. Miconia. M. cazaletii Wurdack affinis, foliis floribusque minoribus differt.

Ramuli teretes sicut folia novella inflorescentia hypanthiaque obscure furfuracei (indumento amorpho) glabrati; linea interpetiolaris obscure evoluta. Petioli ca 1 cm longi; lamina 7-11 X 2.5-4.5 cm elliptica apice gradatim per 1-1.5 cm hebeti-acuminato basi acuta et in petiolem anguste decurrenti, chartacea et integra, breviter (ca 5 mm) triplinervata nervis secundariis ca 5 mm inter se distantibus nervulis obscuris laxe (0.5-1 mm) reticulatis. Panicula 9-10 cm longa submultiflora, ramulis primariis 2-4 in quoque nodo; flores 5-meri, pedicellis plerumque 1-2 mm longis et ca 0.2 mm infra hypanthia articulatis, bracteis 0.3-0.5 mm longis angustis subpersistentibus. Hypanthium (ad torum) 1.8 mm longum; calycis tubus 0.2 mm longus, lobis interioribus 0.3 mm longis deltoideis granulosis, dentibus exterioribus obscuris non eminentibus; torus intus glaber. Petala 1.6-1.7 X 0.8 mm obovato-oblonga (apice rotundato-truncato) granulosa apicem versus minute fimbriato-ciliolata. Stamina dimorphica glabra; filamenta 1.5 mm longa, thecis lanceatis, poro 0.1 mm diam., connectivo non vel vix prolongato. Stamina maiora: thecae 1.9 X 0.3 X 0.4 mm, poro ventraliter inclinato; connectivum ad basim appendice cordiformi 0.4 X 0.4-0.5 mm armatum. Stamina minora: thecae 1.5 X 0.3 X 0.4 mm. poro dorsaliter inclinato; connectivum ad basim acute ca 0.2 mm trilobulatum. Stigma paulo expansum 0.3 mm diam.; stylus 5-5.5 X 0.25 mm glaber; ovarium 3-loculare et ca 1/2 inferum, apice granuloso.

Type Collection: J. Jaramillo & F. Coello 3527 (holotype AAU), collected in tropical rain forest north of Tonampari (Wacorani-Auca village), Prov. Pastaza, Ecuador, elev. 400-500 m, 14 August 1980. "Arbusto de 4 m, estambres blancos, anteras cafés, flores en botón rosadas."

The suggested relative has leaf blades mostly 20-32 X 6-11 cm, subsessile flowers, petals 3 X 1.5-1.7 mm, and anther thecae 2.6-3 mm or 2-2.3 mm long. More distantly related perhaps is M. oligantha Wurdack. The vegetative aspect of M. conformis is rather like that of M. filamentosa Gleason (with short pinoid hairs on the stems, primary leaf veins beneath, and inflorescences, as well as larger flowers) and M. emendata Wurdack (with smaller inflorescences and quite different flowers).

MICONIA PILALOENSIS Wurdack, sp. nov.

Sect. Amblyarrhena. M. pichinchensi Benth. affinis, floribus

maioribus hypanthiis dense glanduloso-setulosis differt.

Ramuli primum obtuse quadrangulati demum teretes sicut petioli laminarum subtus venae primariae inflorescentiae pilis asperis 0.1-0.7 mm longis erectis vel incurvis modice vel dense induti. Petioli 0.5-0.7 cm longi; lamina 4-7 X 2-4 cm ovato-oblonga apice hebeti-acuto basi 0.2-0.4 cm subcordata, chartacea et subcrenulata distanter appresso-ciliolata (pilis laevibus 0.3-0.5 mm longis), supra glabra vel marginem versus sparsissime strigulosa (pilis conicis ca 0.2 mm longis), subtus in venis secundariis venulisque sparse vel sparsissime setulosa pilis laevibus 0.3-0.6 mm longis, 5-7-nervata nervis secundariis ca 3 mm inter se distantibus nervulis subtus laxe reticulatis areolis plerumque 0.7-1 mm latis. Panicula 6-11 cm longa pauciflora, ramulis oppositis sicut hypanthiis dense glanduloso-setulosis pilis ca 0.5-1.4 mm longis; pedicelli 0.7-2 mm longi crassi, bracteolis ca 1.5 mm longis angustis. Hypanthium (ad torum) 3-3.5 mm longum; calycis tubus 0.6-1 mm longus, lobis interioribus 0.2-0.4 mm longis remotis, dentibus exterioribus crassis non eminentibus; torus intus sparse vel sparsissime glandulosus (0.05-0.1 mm). Petala plerumque 4-5 X 4-4.5 mm obovato-suborbicularia glabra. Stamina isomorphica; filamenta 3-5 mm longa sparse glanduloso-puberula (0.1 mm); antherarum thecae 3-3.5 X 0.7-0.9 X 0.9-1.1 mm oblongae, poro 0.15-0.25 mm diam. terminali vel paullulo ventraliter inclinato; connectivum non prolongatum dorsaliter ad basim exappendiculatum ventraliter 0.2-0.3 mm bilobulatum. Stigma expansum 0.6-0.8 mm diam.; stylus 8-9.5 X 0.3-0.5 mm modice glanduloso-puberulus (0.2 mm); ovarium 5-loculare et 1/3-1/2 inferum, collo 0.3-0.5 mm longo sparse glanduloso.

Type Collection: B. Lojtnant, A. & U. Molau 13947 (holotype AAU; isotype GB), collected in cloud forest along Latacunga-Quevedo road 3-5 km above Pilaló, Prov. Cotopaxi, Ecuador, elev. 2700-2800 m, 28 May 1979. "Subshrub ca 1 m tall. Petals white. Stamens yellow."

Paratype: L. Holm-Nielsen & S. Jeppesen 1114 (AAU, US), from near Pilaló, Cotopaxi, Ecuador, elev. 2400 m. "Bush. Flowers redly tarnished or white."

Miconia pichinchensis has only eglandular hairs on the inflorescences and hypanthia, as well as smaller flowers; the salient differences were listed in the Flora of Ecuador (13: 220), the additional material strengthening the specific status. Colombian relatives include those listed in the original descriptions of M. cordifolia Wurdack and M. luteynii Wurdack.

MICONIA PROTUBERANS Wurdack, sp. nov.

Sect. Amblyarrhena. M. barbeyanae Cogn. affinis, petiolorum insertionibus elevatis laminis ad basim rotundatis hypanthiis basaliter pilis stellulato-pinoideis indutis differt.

Ramulis primum rotundato-quadrangulati demum teretes sicut petioli inflorescentiae dense et laminarum subtus venae primariae hypanthiae (basim versus) modice vel sparsiuscule pilis stellulato-pinoideis 0.05-0.1 mm latis puberuli et glandulis

clavatis 0.05 mm longis induti demum glabrati. Petioli 1.5-2 cm longi in ramulorum zona 1-2 mm elevata inserti; lamina 9-13 X (4-)5-9 cm elliptico-ovata apice abrupte per 1-1.5 cm hebeti-acuminato basi rotundato-truncato vel obscure cordulata, coriacea et integra, utrinque in superficie glabra, 5-nervata vel usque ad 5 mm pseudoplinervata nervis secundariis 2-3(-5) mm inter se distantibus nervulis subtus obscuris areolis ca. 0.3 mm latis. Panicula 6-18 cm longa multiflora; flores 5-meri, pedicellis ca 2 mm longis ad hypanthii bases articulatis, bracteolis ca 0.5 X 0.1 mm linearibus caducis. Hypanthium (ad torum) 2mm longum; calycis tubus 0.2 mm longus, lobis interioribus 0.6 mm longis ovatis ad basim remotis, dentibus exterioribus lobos interiores aequantibus vel paullulo (0.2 mm) excedentibus; torus intus glaber. Petala 2 X 1.5-1.6 mm obovato-rotundata glabra. Stamina isomorphica glabra; filamenta 2.3-2.5 mm longa; antherarum thecae 1.8-2 X 0.5 X 0.5 mm oblongae, poro 0.1 mm diam. vix dorsaliter inclinato, connectivo simplici non prolongato. Stigma expansum 0.6-0.7 mm diam.; stylus 6.5 X 0.3 mm glaber in ovarii apicem lobulatum 0.3 mm immersus; ovarium 5-loculare et ca 1/4-1/3 inferum lobulis apicalibus sparse glanduloso-setulosis (0.1 mm).

Type Collection: G. Harling & L. Andersson 16433 (holotype GB; isotype US), collected in primary montane rain forest on Baeza-Tena road on southern slopes of Cordillera de Guacamayos, Prov. Napo, Ecuador, elev. ca 1800 m, 9 February 1980. "Liane-like climbing shrub. Corolla white, anthers yellow."

Miconia barbeyana has the petiolar insertion regions of the branchlets not elevated, distinctly plinerved leaf blades acute at the base, an indiscrete (squamulose) indument, and smaller anthers. The tumid nodes, anthers, and ovary apex shape in M. protuberans are rather like those in M. annulata (Naud.) Triana, which has minutely denticulate leaf blades with very lax venule areoles, larger flowers (hypanthium 3 mm long) with inframarginal external calyx teeth, and a glabrous ovary cone. While the recently described M. coloradensis Almeda has callused petiole insertions and similar leaf shape, I do not believe that it is intimately related to M. protuberans (larger well-defined vegetative hairs, apically setulose petioles, 9-11-nerved leaf blades, larger flowers with the hypanthial torus glandular-setulose within); a second collection of the Panama species is Mendoza, Mendieta, & Mayo 291 (US), from Campamento del Bijao in Fortuna, Prov. Chiriquí.

MICONIA ANDERSSONII Wurdack, sp. nov.

Sect. Amblyarrhena. De affinitate intima mihi incognita. In foliorum venatione et ramulorum nodis M. fosbergii Wurdack simile, sed ob indumentum antherasque differt.

Ramuli primum obtuse quadrangulati mox teretes primum (praecipue ad nodos) sicut foliorum subtus venae primariae densiuscule pilis 0.2-0.7 mm longis apicem versus sparse barbelatis setulosi et sicut inflorescentia hypanthiaque dense subamorpho-furfuracei; nodi circa petiolorum insertionem ca 1 mm

elevati, linea interpetiolarum tenui evoluta. Petioli 2-3.5 cm longi; lamina (12-)15-30 X (4-)6-11.5 cm elliptica apice subgradatim per 1-2 cm hebeti-acuminato basi acuta, chartacea et obscure undulato-denticulata, ubique primum stellulato-furfuracea, supra mox glabrata, subtus demum in superficie glabra in venis secundariis venulisque glanduloso, 5-plinervata pari interiore 1-2.5 cm supra basin divergenti nervis secundariis 3-4 mm inter se distantibus nervulis subtus dense reticulatis areolis 0.2-0.3 mm latis. Panicula 15-22 cm longa multiflora; flores 5-meri, pedicellis 0.5-1 mm longis, bracteolis ca 2 X 1 mm deciduis. Hypanthium (ad torum) 2 mm longum; calycis tubus 0.5 mm longus, lobis interioribus 0.2 mm longis remotis, dentibus exterioribus furfuraceo-setulosis lobos interiores aequantibus vel paullulo superantibus; torus intus glaber. Petala 4.3-4.5 X 1.6-1.9 mm oblonga glabra. Stamina isomorphica; filamenta 2.1-2.2 mm longa apicaliter sparse glanduloso-puberula (0.05-0.1 mm); antherarum thecae 2.1 X 0.6 X 0.4 mm oblongae, poro 0.15 mm diam. dorsaliter inclinato; connectivum non prolongatum, dorsaliter ad basin dente hebeti descendentem 0.2-0.3 X 0.3-0.4 mm armatum. Stigma expansum 0.7 mm diam.; stylus 4.5 X 0.3-0.5 mm basin versus modice glanduloso-puberulus in ovarii collo 0.2 mm immersus; ovarium 3-loculare et 1/3 inferum, apice sparse glanduloso-granuloso (0.05 mm).

Type Collection: G. Harling & L. Andersson 19235 (holotype US 2951978; isotype GB), collected along trail from El Corazón to Facundo Vela 1-3 km south of El Corazón, Prov. Cotopaxi, Ecuador, elev. 1300-1400 m, 17 May 1980. "Shrub ca 3 m high. Corolla white to very pale pink."

Paratypes (both Ecuador): Harling & Andersson 19238 (GB), topotypical ("Shrub ca 2 m. Corolla pink."); A. S. Hitchcock 21188 (US), La Chorita-Portovelo (Gold Mine near Zaruma), Prov. El Oro, elev. 1000-2000 m ("Shrub 10-15 ft.").

Miconia fosbergii has similar annulate-incrassate branchlet nodes and large plinerved leaf blades, but long penicillate-stellate branchlet hairs as well as well-formed short stellulate pubescence, laxly reticulate leaf venules, hypanthial torus glandular-ciliolate within, shorter petals, and spatulate introrsely bipored anthers. Miconia rivetii Dang. & Cherm. is even more distantly related. All the Miconia species in Sect. Amblyarrhena have been canvassed, without really locating a close relative for M. anderssonii; the general vegetative aspect, but not the flowers, is rather like that of some species of Ossaea Sect. Octopleura.

TOCOCA LANCIFOLIA Triana var. ANAPHYSICA Wurdack, var. nov.

Foliis omnibus sine formicariis differt.

Type Collection: Pedro Pinate & Edgardo Mondolfi 1034 (holotype US 2952367; isotype VEN), collected along the middle and upper Río Atacavi, Terr. Amazonas, Venezuela, elev. ca 100 m, 10-24 Nov. 1980. "Arbusto muy ramificado do aproximadamente 3 m."

In the typical variety, large formicaria are developed in

one or both members of each leaf pair. Other than this rather startling difference, the two varieties are alike vegetatively and in floral details. Because of the complete lack of domatia, var. anaphysca would key to near T. lasiostyla Cogn., with densely ciliolate-serrulate leaf blades rounded (rather than acute) at the base, densely pruinose-granulose petals, anthers with a dorsally inclined pore, moderately setulose style, and completely inferior ovary. All of the material (four sheets) of Pinate & Mondolfi 1034 has been available for study. As has been indicated in the past, formicarial development in the Melastomataceae seems genetically determined. During the course of growing Melastomataceae from seed for chromosome counts (Phytologia 47: 199-220. 1980), small domatia usually appeared in the sixth to eighth leaf pair of a seedling in Tococa guianensis Aublet, Maieta guianensis Aublet, and M. poeppigii Mart. ex Triana, with subsequent formicaria becoming larger; the first-mentioned was grown to flowering size (Wurdack 2566) without benefit of ants.

BLAKEA HARLINGII Wurdack, sp. nov.

B. truncatae Gleason affinis, foliis oblongo-ellipticis basaliter nervatis floribus minoribus petalis obtusis differt.

Ramuli teretes primum sicut folia novella obscure furfuracei mox glabrati. Petioli 1-2.5 cm longi; lamina (8-)10-17 X (2.5-)4-6.5 cm oblongo-elliptica apice subabrupte per 0.5-1.5 cm acuminato basi late acuta vel anguste obtusa, coriacea et integra, subtus in nervorum primariorum axillis obscure caduceque barbellata, 3-nervata (pari exteriori tenui inframarginali neglecto) nervis secundariis ca 1 mm inter se distantibus. Flores in quoque nodo superiore plerumque 4, pedicellis 2.5-3 cm longis; bracteae firmae glabrae; bracteae exteriores 19 X 13 mm anguste ovatae acutae extus carinatae ad basim per ca 4 mm coalitae; bracteae interiores 16 X 13 mm obtusae liberae. Hypanthium (ad torum) 8 mm longum glabrum; calycis tubus 4 mm longus, lobis 1.5-1.7 mm longis oblatis; torus intus glaber. Petala 16 X 13 mm obovata (apice obtuso) apicem versus obscure caduceque retrorso-ciliata alioqui glabra. Filamenta ca 7.3 mm longa; antherae 5.2 X 3.5 (connectivo incluso) X 2.2 mm ovatae ut videtur inter se non cohaerentes subapicaliter minute biporosae; connectivi dens dorsalis 2.5 mm longus hebes. Stigma non expansum; stylus 13 X 0.8-0.3 mm glaber; ovarium 6-loculare et 6 mm inferum, cono apicali 2 mm longo angusto glabro.

Type Collection: G. Harling & L. Andersson 16427 (holotype GB; isotype US), collected in primary montane rain forest along Baeza-Tena road on southern slopes of Cordillera de Guacamayos, Prov. Napo, Ecuador, elev. ca 1800 m, 9 February 1980. "Big liana. Corolla white, anthers violet."

The suggested Colombian relative (Syn.: B. mitrata Uribe) has obovate-oblong slightly plinerved leaf blades, outer bracts high-united, elliptic-lanceate to narrowly ovate acute petals 22-30 mm long, and anthers 6.5-7 mm long with the dorsal acuminate spur ca 4.5-5.5 mm long. Blakea quadrangularis Triana and

perhaps B. schultesii Markgraf also belong in this assemblage; both have outer floral bracts essentially free, slightly plinerved leaf blades, and large connective spurs; the former also has well developed calyx lobes and rounded ovary cone. The Central American species-pair B. bella Standley-B. cuneata Standley have vegetative facies and bracts suggestive of the above group, but I have not examined material with petals or stamens; both were described as with petals rounded or truncate at the apex and with no mention of dorsal spurs on the stamen connectives. In the Flora of Ecuador, B. harlingii would key to near B. spruceana Cogn.

TOPOBEA ACUMINATA Wurdack, sp. nov.

T. caudata Wurdack affinis, foliis proportionaliter angustioribus petalis hypanthiisque parvioribus ovario paulo inferiore differt.

Ramuli graciles primum quadrangulares demum teretes, internodiis sicut foliis novellis primum obscure furfuraceis mox glabratis, nodis obscure caduceque strigulosi (ad 1 mm). Folia in quoque pari in dimensionibus plus minusve disparilia (usque ad 5: 1); petioli (in folia maiora) 1-1.5 cm longa; lamina (folia maiora) 7-12 X 1.7-2.7 cm elliptico-oblonga apice per 1-2.5 cm gradatim acuminato basi anguste acuta, subcoriacea et integra, 0.5-1 cm 5-pseudoplinervata pari interiore costa subcoalito nervis secundariis 0.5-0.7 mm inter se distantibus. Flores in quoque nodo superiore singuli vel bini, pedicellis gracilibus 0.9-1.2 cm longis; bractee exteriores hypanthium aequantes 4.5 X 1.6 mm ellipticae acutae ad basim paulo (0.6 mm) coalitae; bractee interiores 4 X 2.3 mm elliptico-ovatae acutae liberae. Hypanthium (ad torum) 2.2 mm longum glabrum; calycis tubus 0.8 mm longus, lobis 1.9-2.2 X 1.6 mm triangularibus acutis obscure furfuraceis. Petala 6.2-6.5 X 2.5 mm elliptico-oblonga acuminata apicem versus obscure ciliolata. Stamina glabra inter se non cohaerentes; filamenta 3.2 mm longa; antherae 3 X 0.6 X 0.5 mm anguste oblongae, poro unico 0.1-0.15 mm diam. dorsaliter inclinato; connectivum ad basim dorsaliter minute (0.1 mm) calcaratum. Stigma 0.15 mm diam.; stylus 6.5 X 0.35-0.1 mm glaber in ovarii collo 0.5 mm immersus; ovarium 4-loculare et 1/3 inferum, cono 2.2 mm alto glabro.

Type Collection: G. Harling & L. Andersson 17058 (holotype GB; isotype US), collected in remnants of primary rain forest at Tarqui 5 km south of Puyo, Prov. Pastaza, Ecuador, elev. ca 850 m, 8 March 1980. "Tree ca 4 m high. Corolla pale yellow."

The leaf blades in T. caudata have a length/width ratio (exclusive of the protracted tip) of 1.4-1.5 (rather than 3.5-3.6), larger bracts, petals 8-8.5 X 4.5 mm with rounded apex, hypanthium 5 mm long, and ovary ca 3/4 inferior. In the Flora of Ecuador, T. acuminata would key to near the more distantly related T. dodsonorum, with quite different foliage, smaller bracts, larger bluntly acute petals, and longer stamen connective tooth.